

CLEARWATER
G R O U P

Environmental Services

7 March 2005

FILE

Ms. Andrea Jensen
Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404

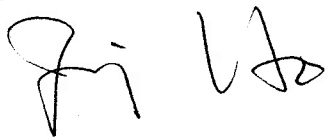
Re: Quarterly Groundwater Monitoring Report - First Quarter 2005
Former Santa Rosa Imports
900 Santa Rosa Avenue
Santa Rosa, CA 95404
Case No. 1TSR263
Clearwater Project No. AB002C

Dear Ms. Jensen:

Enclosed please find a copy of the *First Quarter 2005 Groundwater Monitoring Report* prepared by the Clearwater Group (Clearwater) for the above-referred site. Should you have any questions, please call me at 510-307-9943 ext. 231.

For your information, your office called that you have received our Soil Remediation Plan dated on 24 February 2005. We will submit the soil remediation permit application right away as soon as we receive the required application forms. Your help to make this site closure project moving forward as soon as possible is very appreciated.

Sincerely,
Clearwater Group



Jim Ho
Principal Engineer

Cc: Ms. Joan Fleck
North Coast Regional Water Quality Control Board



FILE

7 March 2005

Ms. Joan Fleck
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Dear Ms. Fleck:

Enclosed please find a copy of the *First Quarter 2005 Groundwater Monitoring Report* prepared by the Clearwater Group (Clearwater) for the above-referred site. Should you have any questions, please call me at 510-307-9943 ext. 231.

For your information, your office called that City of Santa Rosa Fire Department has received our Soil Remediation Plan dated on 24 February 2005. We will submit the soil remediation permit application right away after we receive the required application forms. The site remediation will commence after we receive your comments for the RAP. Your help to make this site closure project moving forward as soon as possible is very appreciated.

Sincerely,
Clearwater Group

Jim Ho
Principal Engineer



FILE

7 March 2005

Mr. Franklin Wolmuth
P.O. Box 640551
San Francisco, CA 94164

Re: Quarterly Groundwater Monitoring Report - First Quarter 2005
Former Santa Rosa Imports
900 Santa Rosa Avenue
Santa Rosa, CA 95404
Case No. 1TSR263
Clearwater Project No. AB002C

Dear Mr. Wolmuth:

Enclosed please find a copy of the *First Quarter 2005 Groundwater Monitoring Report* prepared by the Clearwater Group (Clearwater) on your behalf for the property located at 900 Santa Rosa Avenue, Santa Rosa. For your information, the City of Santa Rosa Fire Department has received the Soil Remediation Plan we recently submitted on 24 February 2005. We will send in the soil remediation permit application right away as soon as we receive the required application forms. Your support on this site closure project is very appreciated.

Should you have any questions for this report or project, please feel free to call me at 510-307-9943 ext. 231.

Sincerely,
Clearwater Group

Jim Ho
Principal Engineer



7 March 2005

Ms. Joan Fleck
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Re: Quarterly Groundwater Monitoring Report - First Quarter 2005

Former Santa Rosa Imports
900 Santa Rosa Avenue
Santa Rosa, CA 95404
Case No. 1TSR263
Clearwater Project No. AB002C

Dear Ms. Fleck,

At the request of Spaceco Storage, Inc. and Mr. Franklin Wolmuth (clients), Clearwater Group (Clearwater) has prepared a Quarterly Groundwater Monitoring Report to the North Coast Regional Water Quality Control Board (NCRWQCB). This monitoring report presents the First Quarter 2005 groundwater monitoring activities and associated results at 900 Santa Rosa Avenue, Santa Rosa, California. The groundwater samples were collected in accordance with standard environmental field protocols, and were submitted to a California-certified analytical laboratory for analysis for Total Petroleum Hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE).

BACKGROUND INFORMATION

Site Description

The site is located on the southeast corner of the intersection of Santa Rosa Avenue and Bennett Valley Road (Figure 1). Highway 12 (elevated) is located immediately north of the site, across Santa Rosa Avenue. The elevation of the site is approximately 160 feet above mean sea level (MSL); and regional topography slopes gently to the west-southwest.

The site is paved, leveled, and set in an area of mixed residential and commercial use. The site is currently used as an automobile smog testing and certification facility.

UST Removal History

The site previously operated as an automobile service station until 1986. All underground storage tanks (USTs) were removed from four separate excavations at the site by Baseline Environmental Consultants in 1987. The former USTs (Excavations #2 and #4) located on the northern portion of

the site were used to store gasoline. The former UST (Excavation #1) located south of the on-site building was also used to store gasoline. One former UST (Excavation #3) located southeast of the on-site building was used to store used motor oil. Product lines and dispensers were also removed during the tank removal. Former UST excavation sizes and excavation locations are shown on Figure 2.

Limited over-excavation was performed around all former UST pits, except for the one located directly north of the building, which contained three 550-gallon USTs. Results of excavation soil sample analyses indicated that residual petroleum hydrocarbons were present in soils proximal to each former UST basin. Results of USTs removal were presented in Baseline Environmental Consultants' report dated December 1, 1987.

Investigation History

Between 1989 and 2000, approximately 20 soil borings were drilled and six monitoring wells were installed as part of an ongoing investigation to determine the extent and level of the contamination resulting from the former USTs. The soil boring and monitoring well locations are also shown in Figure 2. The monitoring well construction data is listed in Table 1.

On 13 December 2001, Clearwater supervised drilling and installation of two remedial test wells that included one dual-phase remedial well (DPW-1) and one air sparge well (AS-1). These wells were used to perform tests for simultaneous groundwater extraction (GWE) with soil-vapor extraction (SVE) and air sparging.

On 6 and 7 February 2002, Clearwater performed a brief step-drawdown test, combined GWE/SVE tests, and solo SVE test on DPW-1. It was found that mass recovery rates for SVE are likely to be poor, based on low airflow rates and relatively low concentrations of extractable petroleum hydrocarbons in the air stream. An air-sparging test was also performed on well AS-1, with unfavorable results obtained due to the low soil permeability.

On 25 and 28 January 2005, Clearwater drilled 12 soil borings to delineate the range of and volume of soils to be excavated during upcoming site remediation. All the borings were drilled to 16 feet below ground surface (bgs). Based on the analyzed data and previous sampling results performed between 1989 and 2000, impacted soil is found within the interval between eight feet and 15 feet bgs. The estimated total area of soil excavation will be approximately 4,200 square feet. Approximately 2,350 cubic yards of soil will be excavated.

Hydrogeology

The subsurface is generally comprised of clays to a depth of approximately 10 to 15 feet bgs underlain by sandy clays and clayey sands to a depth of at least 20 feet bgs. However, comparatively, more coarse grain sediments appear between 10 to 15 feet bgs. The sand appears to grade laterally into sandy gravel south and southwest of the site.

Historically, depth to groundwater has ranged from approximately 6 to 16 feet bgs, with groundwater generally flows toward the southwest direction; although flow direction has found ranged from west-southwest to south-southwest. Table 2 shows historical water level data in monitoring wells.

Contaminants of Concern

The predominant hydrocarbons, which appear to have been released to the subsurface from the former UST system, consist of gasoline compounds. Specific compounds or compound groups, which have been consistently detected, include total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Although Methyl tertiary butyl ether (MTBE) has been detected previously using EPA Method 8020; however, confirmation analyses by EPA Method 8260B indicate that this compound is not present at detectable levels. Quarterly monitoring since March 2001 has identified MTBE by EPA Method 8260B in only MW-5 with a maximum of 2.4 microgram per liter ($\mu\text{g/L}$) sampled in November 2001. No MTBE was detected since the third quarter 2004. Cumulative groundwater analytical data is also included in Table 2. Therefore, only TPH-g and BTEX are the concerned compounds at the site.

Distribution and Estimated Mass of Sorbed-Phase Hydrocarbons

The extent of residual sorbed-phase hydrocarbon compounds has been previously delineated. The "footprint" of sorbed-phase contaminants resembles an ellipse, elongated toward the southwest. The lateral extent of these hydrocarbon compounds is limited mostly to beneath the subject property.

The aerial extent of sorbed-phase hydrocarbon compounds is approximately 9,375 square feet. Sorbed-phase concentrations appear to be highest at the average depth of the capillary fringe (i.e. approximately 10 feet bgs). However, the detectable soil concentrations range from approximately 5 to 15 feet bgs (10 feet thick). Based on the above data, it is estimated that approximately 90,000 ft³ (3,333 cubic yards) of on-site soils are impacted by petroleum hydrocarbon compounds. The impacted soil may contain approximately 6,100 pounds (lbs) of gasoline-related hydrocarbons

Distribution and Estimated Mass of Dissolved-Phase Hydrocarbons

The extent of dissolved-phase hydrocarbon compounds has been effectively delineated with the existing monitoring well network. The core of the plume appears to be located in the area around and immediately downgradient of the former UST systems.

The extent of the dissolved-phase TPH-g plume is approximately 250 feet long along the direction of measured hydraulic gradient and 175 feet wide perpendicular to the gradient. Maximum historical TPH-g and benzene concentrations from on-site monitoring wells are 140,000 micrograms per liter ($\mu\text{g/L}$) and 6,200 $\mu\text{g/L}$, respectively, since February 2000. It is estimated that approximately 65 lb (or 11 gal.) of gasoline hydrocarbons reside as a dissolved-phase in groundwater.

A summary of historically sampled groundwater analytical data is provided in Table 2. Groundwater samples from cross-gradient wells (i.e., MW-4 and MW-6) have not been impacted. Although historical sampling results indicate that the plume is relatively stable, concerned hydrocarbons concentrations in impacted wells (i.e., MW-1, MW-2, and MW-3), however, display a decreasing trend over the past few years.

QUARTERLY MONITORING ACTIVITIES

Groundwater Gauging

On 10 February 2005, Clearwater performed quarterly gauging and sampling on six monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. An electronic water level indicator was used to gauge depth to water in the wells prior to purging and sampling. All wells were checked for the presence of Light Non-Aqueous Phase Liquid (LNAPL) gasoline prior to purging. Although no measurable thickness of LNAPL was observed in the monitoring wells at the time of this sampling event, petroleum-type sheens were once again observed on samples collected from monitoring wells MW-1, MW-2, and MW-3. All work was performed in accordance with Clearwater's Groundwater Monitoring and Sampling Procedures presented in Appendix A.

Groundwater Purging

The wells were purged of groundwater until water quality parameters (e.g. temperature, pH and conductivity) stabilized; which occurred upon removal of approximately three wet casing volumes. Groundwater quality parameters and well purging information were recorded in the field at the time of monitoring. The field recorded purging data is presented in Appendix B.

Purging devices were decontaminated between wells in an Alconox® wash followed by double rinsing with clean tap water to prevent cross-contamination. Purge water and rinseate were stored on site in labeled 55-gallons drums pending future removal and disposal.

Groundwater Sampling

Following recovery of water levels to at least 80% of their static levels, groundwater samples were collected from the monitoring wells using disposable polyethylene bailers. Samples were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the analytical laboratory.

Laboratory Analysis

Groundwater samples were analyzed by Kiff Analytical, a California State-certified laboratory located in Davis California, for concentrations of TPH-g, BTEX, and MTBE using EPA Method 8260B.

QUARTERLY MONITORING RESULTS

Groundwater Elevation and Flow

The depth to water ranged from approximately 6.14 feet bgs (MW-2) to 9.73 feet bgs (MW-5). Similar to the third and fourth quarter 2004 observations, MW-2 and MW-5, respectively, had a minimum and a maximum depth to water found during this quarterly event. Overall groundwater elevation observed in this quarter was approximately 4.4 feet higher than the elevation observed in the fourth quarter 2004. Depth to water data combined with casing elevation data were used to construct a groundwater elevation map, which is shown in Figure 3. Similar to the data obtained during the third and fourth quarters of 2004, the measured groundwater elevations obtained during this quarter suggest that a groundwater "mound" still exists at the site near MW-2. The predominant groundwater flow existed during this quarter was in the southwest direction. The calculated hydraulic gradient in the southwest direction was approximately 0.02 ft/ft.

Laboratory Analytical Results

During this monitoring event, high gasoline range hydrocarbons were only detected in monitoring wells MW-1 and MW-2. The highest TPH-g concentration detected was 66,000 $\mu\text{g/L}$ in MW-2, and the highest benzene concentration of 1,700 $\mu\text{g/L}$ was detected in MW-1. Although TPH-g concentrations collected in monitoring wells MW-1 through MW-3 during this monitoring event are generally lower compared with those of the third and fourth quarter 2004 monitoring events, it is worth noting that THP-g concentration detected in down gradient monitoring well MW-3 was greatly reduced from 3,300 $\mu\text{g/L}$ (fourth quarter 2004) to 370 $\mu\text{g/L}$. Benzene also was not detected in MW-3. Although the only hydrocarbon compound detected in well MW-5 was TPH-g, its concentration seems to reach an asymptotic level of less than 100 $\mu\text{g/L}$. All the concentrations at MW-6 and MW-4 remain less than detection limits.

Groundwater analytical data for TPH-g and benzene are presented graphically on Figures 4 and 5. The sample analytical data for this quarterly monitoring event are also included in Table 2. Copies of the laboratory report and chain-of-custody form are attached in Appendix C.

Evaluation of Hydrocarbon Degradation

Natural attenuation often exists within a petroleum hydrocarbon plume, which is demonstrated with a reduction of hydrocarbon concentrations over time. It especially occurs at a site that has experienced source removal and/or active remediation, so that natural attenuation processes can overtake the rate at which contaminants partition from the sorbed-phase into the dissolved-phase. Degradation of hydrocarbon constituents often takes place at the "first-order" rate. The degradation constants can be estimated using either observed contaminant concentrations from monitoring wells or determined plume mass, if the plume has been delineated.

First-order decay rates for TPH-g and benzene beneath this site have been estimated using historical monitoring data obtained from for wells MW-1, MW-2 and MW-3. Degradation rate

constants for TPH-g and benzene were determined by fitting an exponential curve with the sampled concentrations against time. Estimated degradation rate constants for TPH-g and benzene are shown on the fitted equation from each well. The results are presented in Figures 6A, 6B, and 6C. The estimated first-order degradation rate constants for benzene in wells MW-1, MW-2, and MW-3 are 0.025 per day, 0.070 per day, and 0.195 per day, respectively; and the estimated rate constants for TPH-g in MW-1, MW-2, and MW-3 are 0.016 per day; 0.005 per day; and 0.173 per day, respectively. Compare the estimated degradation constants determined from these wells, both TPH-g and benzene degrade at a rate ranges approximately three to 38 times faster in down gradient area near MW-3. As shown in Figures 4 and 5, monitoring wells MW-1 and MW-2 are likely closer to the source area than MW-3 where natural attenuation either was not significant or anaerobic biodegradation dominates. This postulation is consistent with the hydrocarbon distributions presented in Figures 4 and 5.

CONCLUSIONS

As a result of the first quarter 2005 groundwater monitoring, the following conclusions are obtained:

- Local groundwater elevation contours once again suggest that a groundwater “mound” may still exist at area between wells MW-2 and MW-4. The predominant groundwater flow was in the southwest direction. The calculated hydraulic gradient in the southwest direction was approximately 0.02 ft/ft.
- Like all the groundwater monitoring events since February 2000, both sampled TPH-g and benzene concentrations are still higher in monitoring wells MW-1 and MW-2.
- During this quarter, highest TPH-g and benzene concentrations were 66,000 $\mu\text{g/L}$ and 1,700 $\mu\text{g/L}$ in MW-2 and MW-1, respectively. However, TPH-g concentrations obtained during this monitoring event were generally lower compared with those sampled from the third and fourth quarters 2004.
- THP-g concentration detected in down gradient monitoring well MW-3 was greatly reduced from 3,300 $\mu\text{g/L}$ (fourth quarter 2004) to 370 $\mu\text{g/L}$. Benzene was not detected in MW-3.
- The only hydrocarbon compound detected in well MW-5 was TPH-g. Its concentration seems to reach an asymptotic level of less than 100 $\mu\text{g/L}$. All the concentrations at MW-6 and MW-4 remain less than detection limits.
- Both TPH-g and benzene degrade at rates approximately three to 38 times faster in down gradient area near MW-3. This may suggest that both monitoring wells MW-1 and MW-2 are close to the source area where natural attenuation was insignificant and anaerobic conditions exist.
- Data obtained from the first quarter 2005 monitoring event is consistent with that reported from previous quarters. It indicates that the delineated hydrocarbon plume is relatively stable. Not only all the concentrations at MW-6 and MW-4 remain less than detection limits, the only

hydrocarbon compound detected in well MW-5 was TPH-g. Its concentration seems to reach an asymptotic level of less than 100 µg/L.

PROJECT STATUS AND FORECAST ACTIVITIES

At the request of the clients, Clearwater is going to implement site remediation described in the Remedial Action Plan (RAP) submitted on 7 January 2005, which will involve demolition of the on-site building, excavation of impacted soil for off-site disposal, and dewatering of the excavation area. Based on the additional soil investigation performed on 25 and 28 January 2005, the area and volume of impacted soil has been further delineated and reported in the *Soil Remediation Plan* submitted on 24 February 2005. The site owner has requested permission from the City of Santa Rosa to demolish the building. It is anticipated that both the building demolition and site remediation will commence soon after the RAP is approved by NCRWQCB. Quarterly groundwater monitoring will continue until the site is ready for closure.



CERTIFICATION

This report was prepared under the supervision of a professional State of California Registered Geologist at Clearwater Group. All statements, conclusions and recommendations are based solely upon published results from previous consultants, field observations by Clearwater Group and laboratory analysis performed by a California DHS-certified laboratory related to the work performed by Clearwater Group.

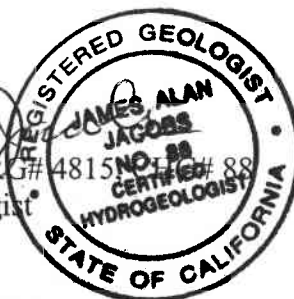
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Sincerely,
Clearwater Group

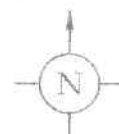
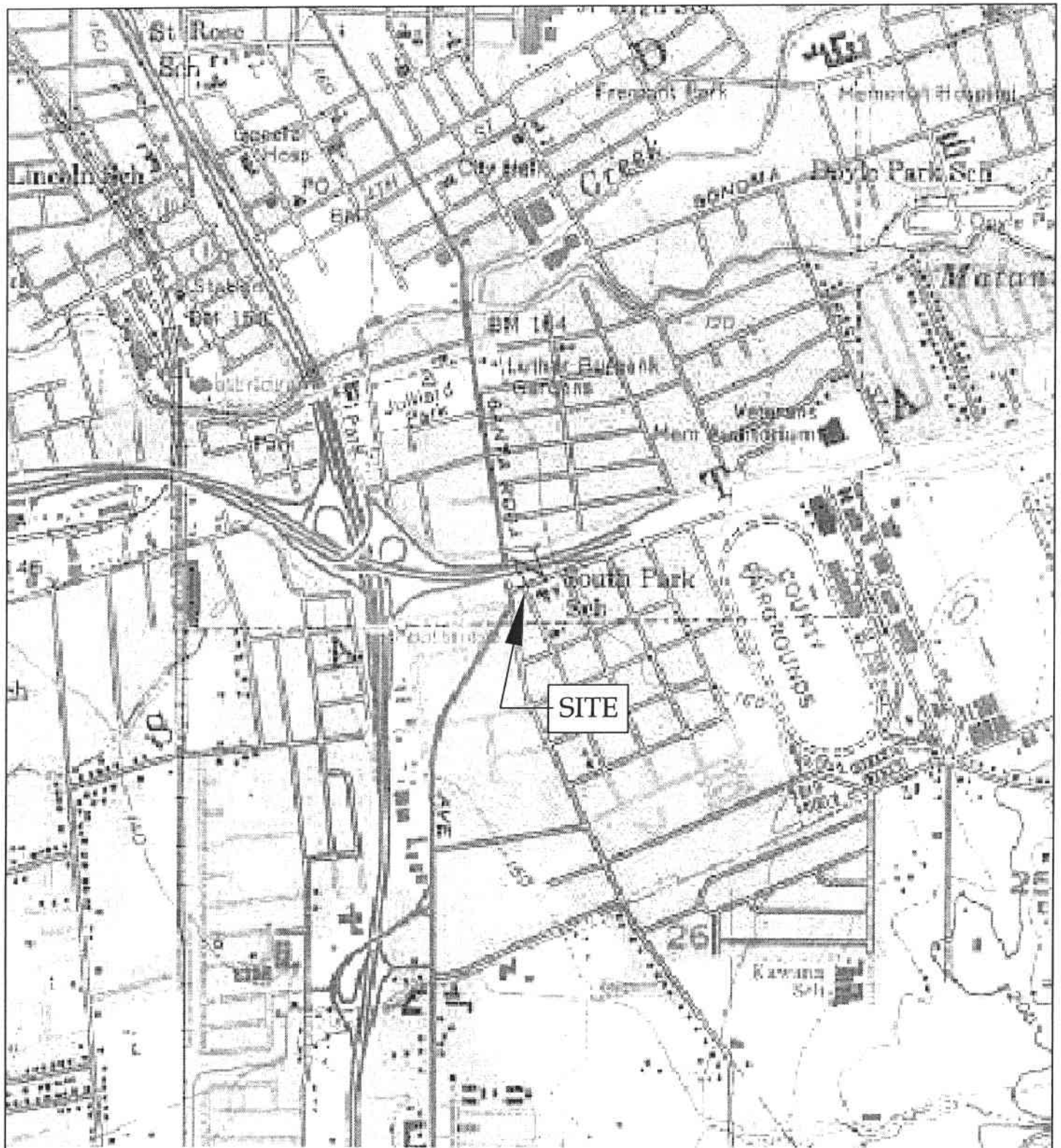
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer

James A. Jacobs, R.G.# 4815
Chief Hydrogeologist



cc: Mr. Franklin Wolmuth, P.O. Box 640551, San Francisco, CA 94164-0551
Ms. Andrea Jensen, Santa Rosa Fire Department, 955 Sonoma Avenue, Santa Rosa, CA 95404

FIGURES



SITE LOCATION MAP
900 Santa Rosa Ave.
Santa Rosa, CA

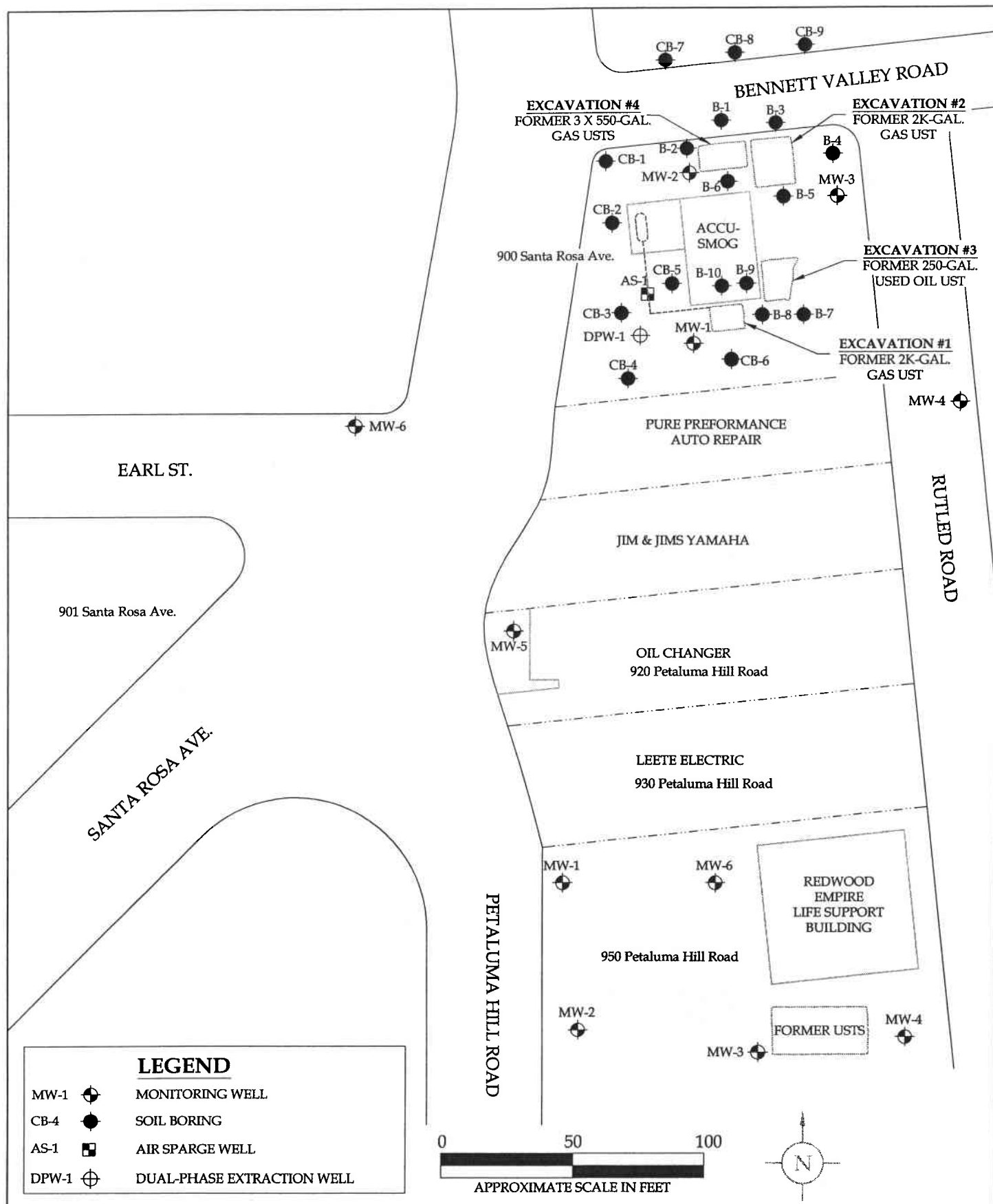
NOT TO SCALE

CLEARWATER GROUP

Project No.
AB002G

Figure Date
1/04

Figure
1



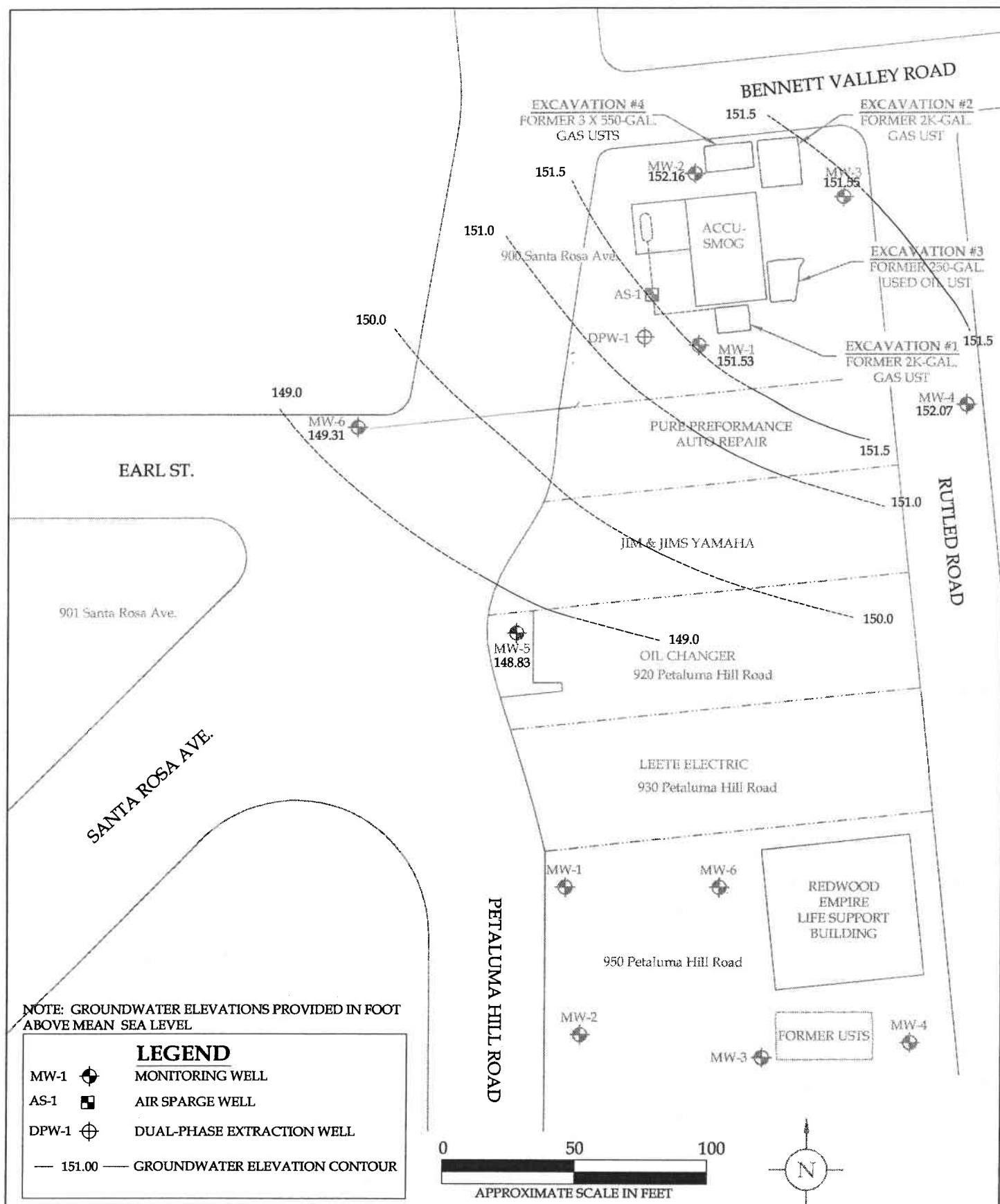
SITE PLAN
900 Santa Rosa Ave.
Santa Rosa, CA

CLEARWATER GROUP

Project No.
AB002G

Figure Date
2/05

Figure
2



GROUNDWATER ELEVATION & CONTOUR MAP

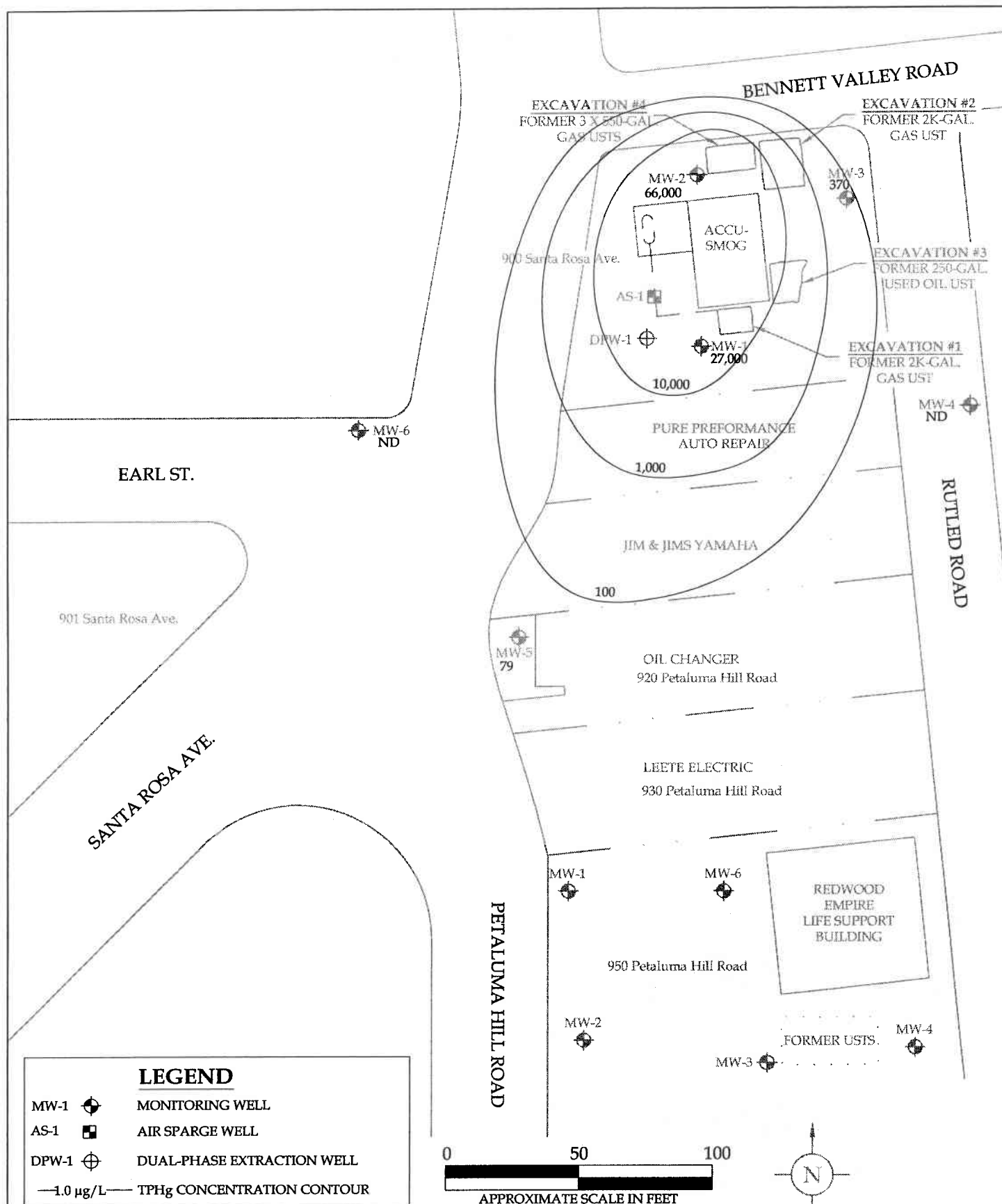
February 10, 2005
900 Santa Rosa Ave.
Santa Rosa, CA

CLEARWATER GROUP

Project No.
AB002G

Figure Date
03/05

Figure
3



TPHg ISO-CONCENTRATION CONTOUR MAP

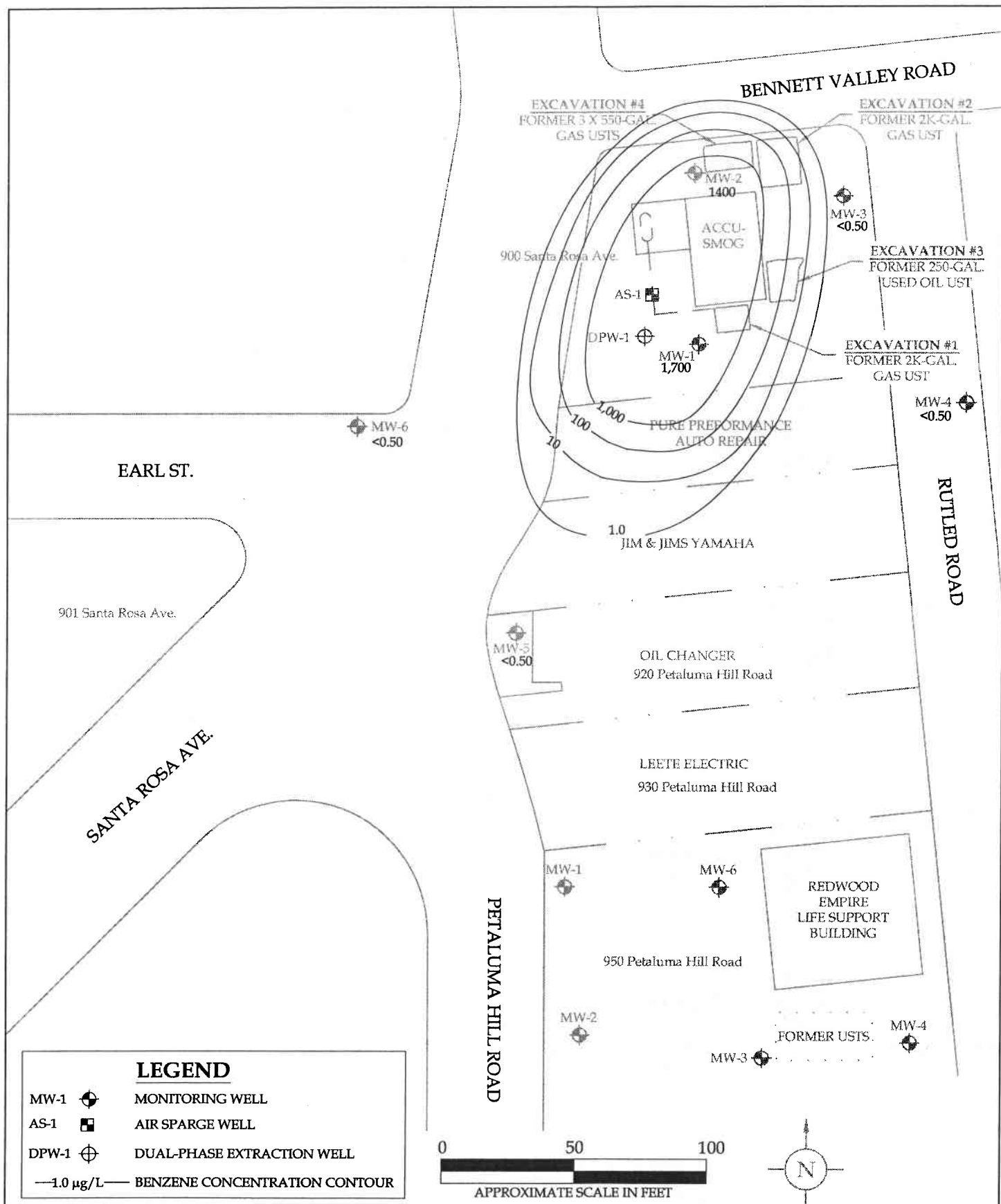
February 10, 2005
900 Santa Rosa Ave.
Santa Rosa, CA

CLEARWATER GROUP

Project No.
AB002G

Figure Date
03/05

Figure
4



BENZENE ISO-CONCENTRATION CONTOUR MAP

February 10, 2005
900 Santa Rosa Ave.
Santa Rosa, CA

CLEARWATER GROUP

Project No.
AB002G

Figure Date
03/05

Figure
5

Figure 6A
Empirical Evaluation of First-Order Decay Rates
MW-1: TPHg and Benzene vs. Time
 Former Spaceco Storage
 900 Santa Rosa Avenue, Santa Rosa, CA

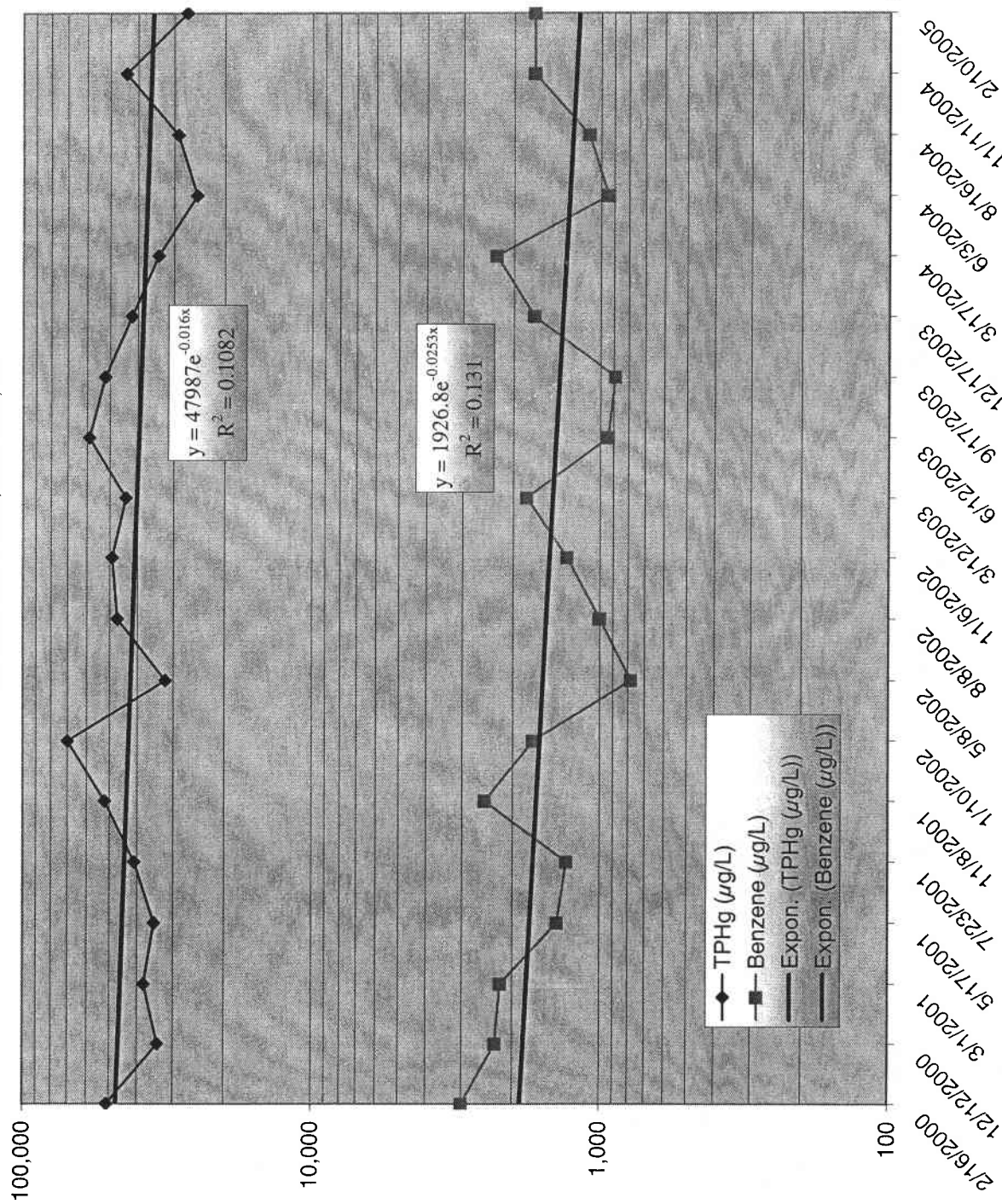


Figure 6B
Empirical Evaluation of First-Order Decay Rates
MW-2: TPHg and Benzene vs. Time
 Former Spaceco Storage
 900 Santa Rosa Avenue, Santa Rosa, CA

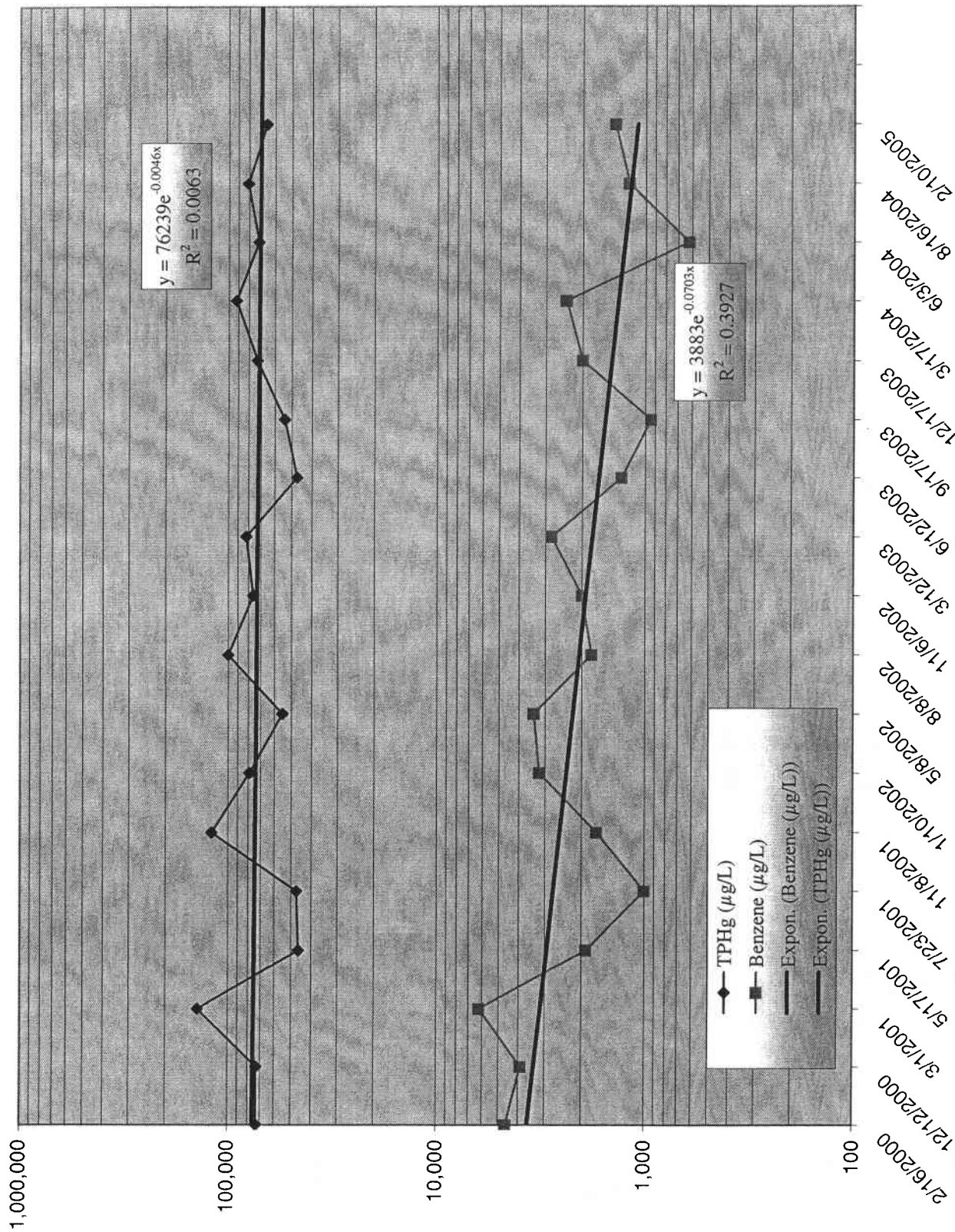
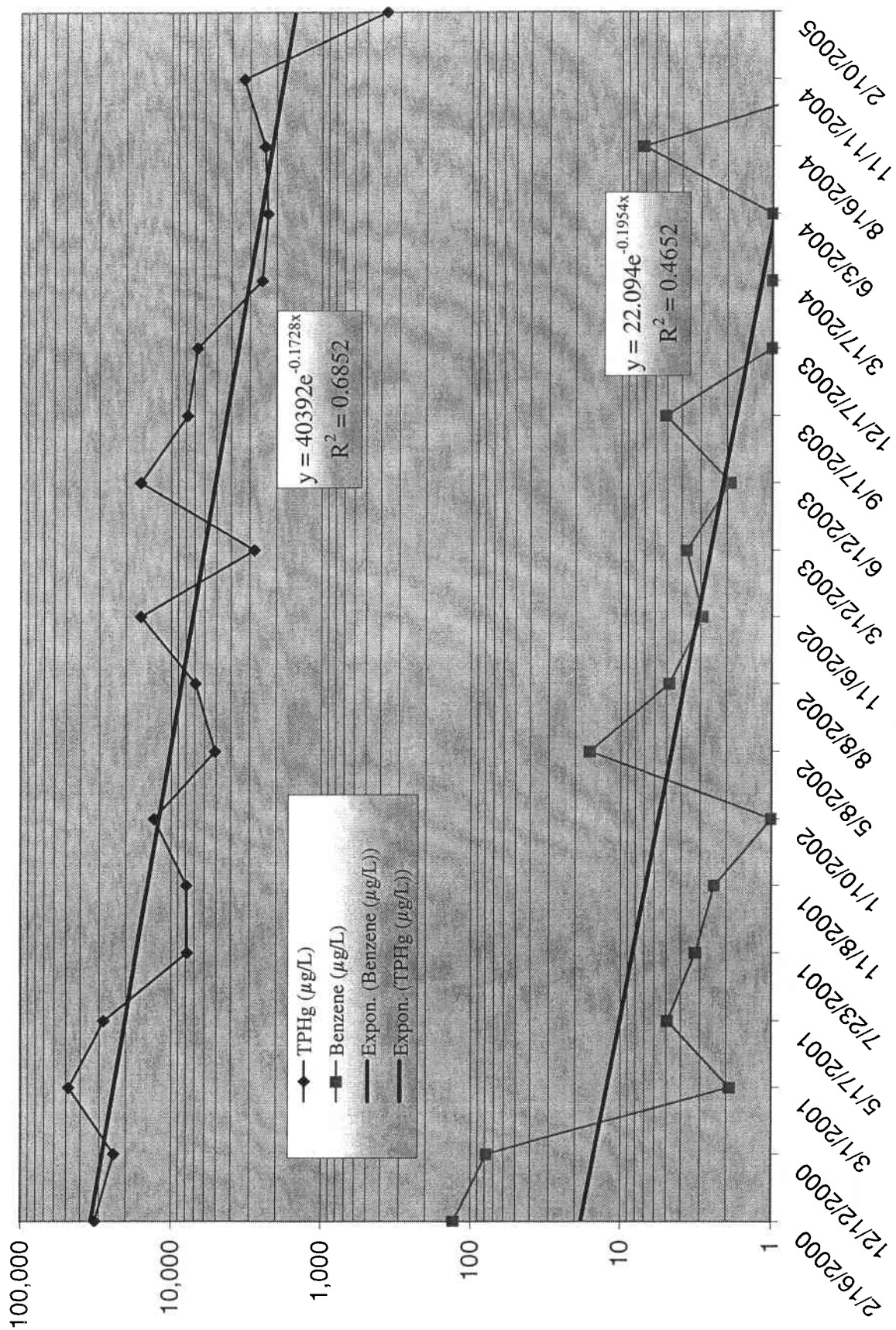


Figure 6C
Empirical Evaluation of First Order Decay Rates
MW-3: TPHg and Benzene vs. Time
 Former Spacoco Storage
 900 Santa Rosa Avenue, Santa Rosa, CA



TABLES

Table 1
WELL CONSTRUCTION DATA
 900 Santa Rosa Avenue
 Santa Rosa, California
 Clearwater Project No. AB002C

Well I.D.	Date Intstalled	Borehole Diameter (inches)	Depth of Borehole (feet)	Casing Diameter (inches)	Screened Interval (feet)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	12/30/1993	8	15.0	2	5-15	4-20	3-4	0-3
MW-2	2/14/2000	8	20.0	2	5-20	4-20	2-4	0-2
MW-3	2/14/2000	8	20.0	2	5-20	4-20	2-4	0-2
MW-4	12/4/2000	8	20.0	2	5-20	4-20	2-4	0-2
MW-5	12/4/2000	8	20.0	2	5-20	4-20	2-4	0-2
MW-6	12/4/2000	8	20.0	2	5-20	4-20	2-4	0-2

Note: All the depths and intervals are measured below ground surface

Table 2

GROUNDWATER ELEVATIONS AND ANALYTICAL DATA

900 Santa Rosa Avenue, Santa Rosa, California
Clearwater Job No. AB002C

Well No.	Date	TOC (feet)	DTW (feet)	LNAPL (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Oxys (µg/L)	Pb Scav.s (µg/L)
MW-1	1/7/94+	160.00	~11.50	0.00	--	14,000 ^h	76,000	6,000	2,300	3,200	16,000	--	--	--
	12/4/1996	160.00	10.15	sheen	149.85	<50	44,000	3,100	570	3,000	11,000	400*	--	--
	2/16/2000	160.00	7.09	sheen	152.91	--	51,000	3,000	590	3,800	9,300	<500*	--	--
	12/12/2000	160.00	11.30	sheen	148.70	--	34,000	2,300	360	3,300	6,900	<500*	--	--
	3/1/2001	158.50	6.81	sheen	151.69	--	38,000	2,200	300	3,400	5,500	<10	<10 to <100	<10
	5/17/2001	158.50	8.19	0.00	150.31	--	35,000	1,400	98	2,800	2,900	<10	--	--
	7/23/2001	158.50	10.20	0.00	148.30	--	41,000	1,300	110	3,200	3,500	<5.0	--	--
	11/8/2001	158.50	12.86	sheen	145.64	--	52,000	2,500	370	3,600	6,400	<20	--	--
	1/10/2002	158.50	6.89	0.00	151.61	--	70,000	1,700	210	2,700	4,200	<10	--	--
	5/8/2002	158.50	7.71	0.00	150.79	--	32,000**	780	100	2,600	2,100	<250***	--	--
	8/8/2002	158.50	11.15	0.00	147.35	--	47,000	1,000	110	3,400	2,400	<20	--	--
	11/6/2002	158.50	12.52	0.00	145.98	--	49,000	1,300	180	3,400	3,300	<200***	--	--
	3/12/2003	158.50	7.12	0.00	151.38	--	44,000	1,800	120	3,100	2,200	<20	--	--
	6/12/2003	158.50	7.60	sheen	150.90	--	59,000	940	100	2,700	1,700	<10	--	--
	9/17/2003	158.50	10.80	sheen	147.70	--	52,000	890	110	3,500	2,200	<10	--	--
	12/17/2003	158.50	10.70	sheen	147.80	--	42,000	1,700	160	2,700	2,100	<10	--	--
MW-2	3/17/2004	158.50	6.47	sheen	152.03	--	34,000	2,300	91	1,800	640	<10	--	--
	6/3/2004	158.50	8.93	sheen	149.57	--	25,000	940	78	1,800	430	<4.0	--	--
	8/16/2004	158.50	11.72	sheen	146.78	--	29,000	1,100	90	2,300	600	<10	--	--
	11/11/2004	158.50	11.57	sheen	146.93	--	44,000	1,700	180	3,000	1,500	<10	--	--
	2/10/2005	158.50	6.97	sheen	151.53	--	27,000	1,700	92	2,400	410	<5.0	--	--
	2/16/2000	159.80	5.81	sheen	153.99	--	73,000	4,600	6,900	3,200	13,000	440*	--	--
	12/12/2000	159.80	11.47	sheen	148.33	--	73,000	3,900	2,600	2,900	8,700	<2,500*	--	--
	3/1/2001	158.30	6.49	sheen	151.81	--	140,000	6,200	4,600	4,000	13,000	<20	<20 to <200	<20
	5/17/2001	158.30	7.25	0.00	151.05	--	46,000	1,900	2,100	2,800	7,700	<5.0	--	--
	7/23/2001	158.30	9.30	0.00	149.00	--	47,000	1,000	1,100	2,400	5,800	<10	--	--
	11/8/2001	158.30	11.85	0.01	146.45	--	120,000	1,700	1,700	3,300	11,000	<20	--	--
	1/10/2002	158.30	7.18	0.00	151.12	--	79,000	3,200	2,100	2,800	7,400	<10	--	--
	5/8/2002	158.30	7.70	0.00	150.60	--	55,000**	3,400	2,700	3,000	7,700	<250***	--	--
	8/8/2002	158.30	9.32	0.00	148.98	--	100,000	1,800	1,300	3,800	7,600	<20	--	--
	11/6/2002	158.30	10.89	0.00	147.41	--	76,000	2,000	940	2,900	6,500	<100***	--	--
	3/12/2003	158.30	6.69	0.00	151.61	--	82,000	2,800	1,600	3,700	9,700	<20	--	--
	6/12/2003	158.30	6.43	sheen	151.87	--	47,000	1,300	730	2,900	4,800	<10	--	--
	9/17/2003	158.30	9.66	sheen	148.64	--	54,000	940	670	3,000	5,400	<10	--	--
	12/17/2003	158.30	8.92	sheen	149.38	--	240,000 J	2,000	810	3,100	7,100	<10	--	--
	3/17/2004	158.30	5.78	sheen	152.52	--	92,000	2,400	810	3,100	5,800	<10	--	--
	6/3/2004	158.30	7.98	sheen	150.32	--	72,000	620	390	2,500	4,400	<10	--	--
	8/16/2004	158.30	10.94	sheen	147.36	--	81,000	1,200	670	4,900	7,300	<10	--	--
	11/11/2004	158.30	9.87	0.01	148.43	--	--	--	--	--	--	--	--	--
	2/10/2005	158.30	6.14	sheen	152.16	--	66,000	1,400	530	3,400	5,300	<7.0	--	--

Table 2
GROUNDWATER ELEVATIONS AND ANALYTICAL DATA
 900 Santa Rosa Avenue, Santa Rosa, California
 Clearwater Job No. AB002C

Well No.	Date	TOC (feet)	DTW (feet)	LNAPL (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Oxys (µg/L)	Pb Scav.s (µg/L)
MW-3	2/16/2000	160.48	6.63	sheen	153.85	-	32,000	130	240	1,200	2,500	890*	--	--
	12/12/2000	160.48	12.81	sheen	147.67	-	24,000	78	140	340	760	<500*	--	--
	3/1/2001	159.00	7.02	0.00	151.98	-	48,000	<2.0	10	240	310	<2.0	<2.0 to <20	<2.0
	5/17/2001	159.00	9.33	0.00	149.67	-	28,000	<5.0	8.1	140	160	<5.0	--	--
	7/23/2001	159.00	12.25	0.00	146.75	-	7,800	3.2	2.5	170	190	<1.0	--	--
	11/8/2001	159.00	14.81	sheen	144.19	-	7,900	<2.5	<2.5	74	77	<2.5	--	--
	1/10/2002	159.00	7.41	0.00	151.59	-	13,000	<0.50	2.2	74	65	<0.50	--	--
	5/8/2002	159.00	8.53	0.00	150.47	-	5,100**	16	20	66	62	<25***	--	--
	8/8/2002	159.00	11.92	0.00	147.08	-	6,900	4.8	1.6	23	15	<1.0	--	--
	11/6/2002	159.00	14.46	0.00	144.54	-	16,000	<3***	<2	33	19	<20	--	--
	3/12/2003	159.00	7.61	0.00	151.39	-	2,800	3.7	<0.50	11	7.4	<0.50	--	--
	6/12/2003	159.00	7.30	0.00	151.70	-	16,000	1.9	2.1	55	33.0	<0.50	--	--
	9/17/2003	159.00	12.65	0.00	146.35	-	7,800 J	5.1	<5.0	18	6.3	<5.0	--	--
	12/17/2003	159.00	10.35	sheen	148.65	-	6,700	0.6	1.5	35	20.0	<0.5	--	--
	3/17/2004	159.00	6.91	sheen	152.09	-	2,500	<0.5	<0.5	8	4.1	<0.5	--	--
	6/3/2004	159.00	9.85	0.00	149.15	-	2,300	<0.5	0.6	8	5.8	<0.5	--	--
	8/16/2004	159.00	13.83	sheen	145.17	-	2,400	7.2	3.0	21	8.0	<0.5	--	--
	11/11/2004	159.00	12.17	sheen	146.83	-	3,300	<0.5	1.2	22	9.7	<0.5	--	--
	2/10/2005	159.00	7.45	sheen	151.55	-	370	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
MW-4	12/12/2000	160.12	12.19	0.00	147.93	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0*	--	--
	3/1/2001	158.69	6.34	0.00	152.35	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50 to <5.0	<0.50
	5/17/2001	158.69	8.81	0.00	149.88	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	7/23/2001	158.69	11.86	0.00	146.83	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/8/2001	158.69	14.24	0.00	144.45	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	1/10/2002	158.69	7.18	0.00	151.51	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	5/8/2002	158.69	7.52	0.00	151.17	-	<50**	<0.50	<0.50	<0.50	<1.0	<5.0	--	--
	8/8/2002	158.69	11.76	0.00	146.93	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/6/2002	158.69	14.76	0.00	143.93	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	3/12/2003	158.69	6.76	0.00	151.93	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	6/12/2003	158.69	7.93	0.00	150.76	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	9/17/2003	158.69	12.40	0.00	146.29	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	12/17/2003	158.69	9.86	0.00	148.83	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	3/17/2004	158.69	6.19	0.00	152.50	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	6/3/2004	158.69	9.28	0.00	149.41	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	8/16/2004	158.69	13.06	0.00	145.63	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	11/11/2004	158.69	11.43	0.00	147.26	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	2/10/2005	158.69	6.62	0.00	152.07	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--

Table 2
GROUNDWATER ELEVATIONS AND ANALYTICAL DATA
900 Santa Rosa Avenue, Santa Rosa, California
Clearwater Job No. AB002C

Well No.	Date	TOC (feet)	DTW (feet)	LNAPL (feet)	GWE (feet)	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Oxys (µg/L)	Pb Scav.s (µg/L)
MW-5	12/12/2000	160.06	14.25	0.00	145.81	-	120†	3.9	<0.50	<0.50	<0.50	<5.0*	--	--
	3/1/2001	158.56	9.09	0.00	149.47	-	170	<0.50	<0.50	<0.50	<0.50	2.1	<0.50 to <5.0	<0.50
	5/17/2001	158.56	11.19	0.00	147.37	-	240	<0.50	<0.50	<0.50	<0.50	1.9	--	--
	7/23/2001	158.56	13.57	0.00	144.99	-	60	<0.50	<0.50	<0.50	<0.50	0.52	--	--
	11/8/2001	158.56	15.96	0.00	142.60	-	270	<0.50	<0.50	<0.50	<0.50	2.4	--	--
	1/10/2002	158.56	9.31	0.00	149.25	-	130	7.6	0.52	<0.50	<0.50	2.0	--	--
	5/8/2002	158.56	10.61	0.00	147.95	-	190***	<0.50	<0.50	<0.50	<1.0	<5.0	--	--
	8/8/2002	158.56	13.18	0.00	145.38	-	92	<0.50	<0.50	<0.50	<0.50	0.60	--	--
	11/6/2002	158.56	15.61	0.00	142.95	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	3/12/2003	158.56	10.00	0.00	148.56	-	150	<0.50	<0.50	<0.50	<0.50	1.20	--	--
	6/12/2003	158.56	10.69	0.00	147.87	-	210	<0.50	<0.50	<0.50	<0.50	0.97	--	--
	9/17/2003	158.56	13.96	0.00	144.60	-	70	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	12/17/2003	158.56	12.50	0.00	146.06	-	<50	<0.50	<0.50	<0.50	<0.50	2.10	--	--
	3/17/2004	158.56	9.43	0.00	149.13	-	160	<0.50	<0.50	<0.50	<0.50	1.70	--	--
	6/3/2004	158.56	11.82	0.00	146.74	-	140	<0.50	<0.50	<0.50	<0.50	0.91	--	--
MW-6	8/16/2004	158.56	15.42	0.00	143.14	-	92	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/11/2004	158.56	14.18	0.00	144.38	-	79	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	2/10/2005	158.56	9.73	0.00	148.83	-	79	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	12/12/2000	158.56	12.16	0.00	146.40	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0*	--	--
	3/1/2001	157.09	7.33	0.00	149.76	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50 to <5.0	<0.50
	5/17/2001	157.09	8.82	0.00	148.27	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	7/23/2001	157.09	11.11	0.00	145.98	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/8/2001	157.09	14.54	0.00	142.55	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	1/10/2002	157.09	7.22	0.00	149.87	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	5/8/2002	157.09	7.75	0.00	149.34	-	<50**	<0.50	<0.50	<0.50	<1.0	<5.0	--	--
	8/8/2002	157.09	11.06	0.00	146.03	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/6/2002	157.09	13.98	0.00	143.11	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	3/12/2003	157.09	7.81	0.00	149.28	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	6/12/2003	157.09	7.45	0.00	149.64	-	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	9/17/2003	157.09	12.23	0.00	144.86	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
CB-1 CB-3 CB-4	12/17/2003	157.09	10.00	0.00	147.09	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	3/17/2004	157.09	6.81	0.00	150.28	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	6/3/2004	157.09	9.33	0.00	147.76	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	8/16/2004	157.09	12.98	0.00	144.11	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	11/11/2004	157.09	11.94	0.00	145.15	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	2/10/2005	157.09	7.78	0.00	149.31	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
	2/15/2000	--	--	--	--	--	21,000	190	30	450	270	380*	--	--
	2/15/2000	--	--	--	--	--	57,000	7,700	1,300	2,200	9,500	300*	--	--
	2/15/2000	--	--	--	--	--	11,000	220	<50	280	<50	<500*	--	--

Table 2
GROUNDWATER ELEVATIONS AND ANALYTICAL DATA
900 Santa Rosa Avenue, Santa Rosa, California
Clearwater Job No. AB002C

Well No.	Date	TOC (feet)	DTW (feet)	LNAPL (feet)	GWE (feet)	TPH _a (µg/L)	TPH _g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Oxys (µg/L)	Pb Scav.s (µg/L)
CB-5	2/15/2000	--	--	--	--	--	61,000	8,900	560	4,100	7,800	<500*	--	--
CB-6	2/15/2000	--	--	--	--	--	14,000	180	<25	560	80	<250*	--	--
CB-7	2/15/2000	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0*	--	--
CB-8	2/15/2000	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0*	--	--

Note to Descriptions:

- Well designation
- Sample collection date
- Elevation at the top of the well casing (surveyed to mean sea level)
- Depth to water
- Groundwater table elevation (or potentiometric surface elevation)
- Light Non-Aqueous Phase Liquid gasoline, sheen = <0.01-foot thick
- Total Petroleum Hydrocarbons as Diesel by EPA Method 8015M
- Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015M or 8260B
- Benzene, Toluene, Ethylbenzene, and total Xylenes by EPA Method 8020 or 8260B
- Methyl tert-Butyl Ether by EPA Method 8260B
- Oxys
 - Fuel Oxygenates by EPA Method 8260B
 - 1,2-DCA, 1,2-DBA
 - 1,2-Dichloroethane and 1,2-Dibromoethane by EPA Method 8260B
- µg/L micrograms per liter
- Not tested, not measured
- ^ Laboratory reported chromatogram represented a hydrocarbon lighter than diesel (from GPI report)
- + Laboratory reported chromatogram pattern atypical of gasoline
- + Oil & Grease by SM5520 <5 µg/L, TPH as Motor Oil by EPA 8015M <5 µg/L, Total Pb = 26 µg/L.
- * MTBE by EPA Method 8020
- ** TPHg by GC/MS
- *** Elevated Detection Limit Reported due to dilution factor
- **** Elevated Detection Limit for Benzene Reported due to an interfering compound in MW-3
- J The result is flagged with a "J" to indicate it is an estimate

APPENDIX A

Groundwater Monitoring and Sampling Procedures

CLEARWATER GROUP

Groundwater Monitoring and Sampling Field Procedures

Groundwater Monitoring

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used), and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated downhole equipment is decontaminated prior to use.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic water sounder. Depth to bottom is typically measured once per year, at the request of the project manager, and during Clearwater's first visit to a site. If historical analytical data are not available, with which to establish a reliable order of increasing well contamination, the water sounder and tape will be decontaminated between each well. If floating separate-phase hydrocarbons (SPH) are suspected or observed, SPH is collected using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. SPH may alternatively be measured with an electronic interface probe. Any monitoring well containing a measurable thickness of SPH before or during purging is not additionally purged and no sample is collected from that well. Wells containing hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and floating product thicknesses are noted on the Gauging Data/Purge Calculations form.

Well Purging

Each monitoring well to be sampled is purged using either a PVC bailer or a submersible pump. Physical parameters (pH, temperature and conductivity) of the purge water are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge water. Parameters are measured at least four times during purging; initially, and at volume intervals of one well volume. Purging continues until three well casing volumes have been removed or until the well completely dewater. Wells which dewater or demonstrate a slow recharge may be sampled after fewer than three well volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is removed to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

Groundwater samples are collected immediately after purging or, if purging rate exceeds well recharge rate, when the well has recharged to at least 80% of its static water level. If recharge is extremely slow, the well is allowed to recharge for at least two hours, if practicable, or until sufficient volume has accumulated for sampling. The well is sampled within 24 hours of purging or repurged. Samples are collected using polyethylene bailers, either disposable or dedicated to the well. Samples being analyzed for compounds most sensitive to volatilization are collected first. Water samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and placed on ice in a cooler for transport to a state-certified analytical laboratory. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.

Quality Assurance Procedures

To prevent contamination of the samples, Clearwater personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves is put on prior to sampling each well.
- Wells are gauged, purged and groundwater samples are collected in the expected order of increasing degree of contamination based on historical analytical results.

- All purging equipment will be thoroughly decontaminated between each well, using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the water. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Laboratory and field handling procedures may be monitored, if required by the client or regulators, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory by laboratory personnel to check field handling procedures. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgeable organic compounds.
- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective. The sampling equipment used to collect the groundwater samples is rinsed with distilled water which is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.
- Duplicates are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event. The duplicate is assigned an identification number that will not associate it with the source well.

Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by Clearwater depending on site conditions and regulatory requirements.

APPENDIX B

Field Recorded Groundwater Elevation and Purging Data

G R O U P

229 Tewksbury Ave, Point Richmond, CA 94801
Phone: (510)307-9943 Fax: (510) 232-2823

WELL GAUGING/PURGING CALCULATIONS DATA SHEET

Location

DATA SHEET		
Date	Job No.	Location
2/10/05	AB0026	900 SANTA ROSA AVE SANTA ROSA, CA

Drums on Site @TOA


Drums on Site @ TOD

Tech(s):
Raney BERRY

Soil: *D*

Water: *b*

Soil: (f)

Water: 

[illegible]

Explanation:

DTB = Depth to Bottom

DTW = Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV, well development 10 x CV)

SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf)

2-inch diameter well $c_f = 0.16$ gal/ft

4-inch diameter well $c_f=0.65$ gal/ft

6-inch diameter well $c_f=1.44$ gal/ft

PURGING DATA

SHEET 1 OF 2

Job No.: AB0025 Location: 900 SANTA ROSA AVE Date: 2/10/05 Tech: RODNEY BERRY
SANTA ROSA, CA

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-4	1057	2.00	897	62.3	6.65	Sample for:
Calc. purge	1104	4.00	895	62.4	6.65	TPHg TPHd 8010
volume	1108	6.55	898	62.4	6.65	BTEX Other mthe 8260B
						Purging Method: <u>DISPOSABLE</u>
						PVC bailer / Pump <u>BAILER</u>
COMMENTS: color, turbidity, recharge, sheen						Sampling Method:
<u>CLEAR, low, good, NO SHEEN</u>						Dedicated / Disposable bailer

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-6	1122	2.00	445	65.5	6.82	Sample for:
Calc. purge	1125	4.00	447	65.5	6.80	TPHg TPHd 8010
volume	1127	6.00	449	65.5	6.79	BTEX Other mthe 8260B
						Purging Method: <u>DISPOSABLE</u>
						PVC bailer / Pump
COMMENTS: color, turbidity, recharge, sheen						Sampling Method:
<u>CLEAR, low, good, NO SHEEN</u>						Dedicated / Disposable bailer

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-5	1146	1.00	616	64.9	6.68	Sample for:
Calc. purge	1151	3.00	616	64.9	6.66	TPHg TPHd 8010
volume	1153	4.50	616	64.9	6.67	BTEX Other mthe 8260B
						Purging Method: <u>DISPOSABLE</u>
						PVC bailer / Pump
COMMENTS: color, turbidity, recharge, sheen						Sampling Method:
<u>CLEAR, low, good, NO SHEEN</u>						Dedicated / Disposable bailer

PURGING DATA

SHEET 2 OF 2

Job No. AB0026 Location: SANTA ROSA AVE

Date: 2/10/05 Tech: RODNEY BERRY

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-3	1205	2.00	485	66.0	6.60	Sample for: TPHg TPHd 8010 BTEx Other <u>MTL 8260B</u> Purging Method: PVC bailer <u>DISPOSABLE BAILE</u> Pump Sampling Method: Dedicated / Disposable bailer
Calc. purge	1203	4.00	483	66.0	6.59	
volume	1212	6.00	483	66.0	6.59	
<u>5.62</u>						

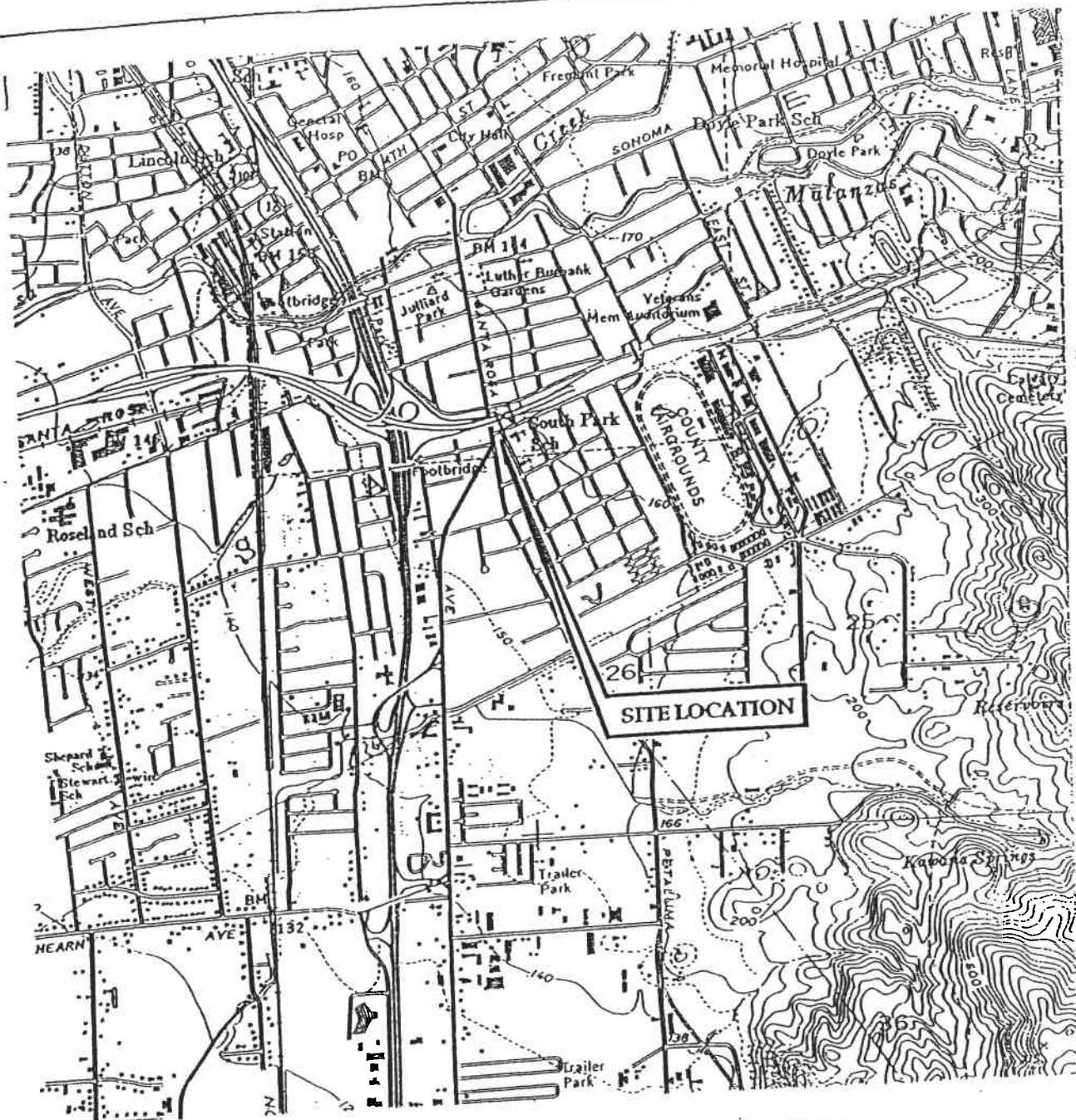
COMMENTS: color, turbidity, recharge, sheen
CLEAR, low, good, sheen, some odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-2	1221	2.00	768	63.3	6.68	Sample for: TPHg TPHd 8010 BTEx Other <u>MTL 8260B</u> Purging Method: PVC bailer <u>DISPOSABLE BAILE</u> Pump Sampling Method: Dedicated / Disposable bailer
Calc. purge	1225	4.00	772	63.4	6.68	
volume	1228	6.50	770	63.4	6.67	
<u>6.43</u>						

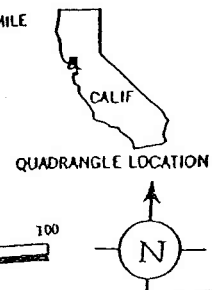
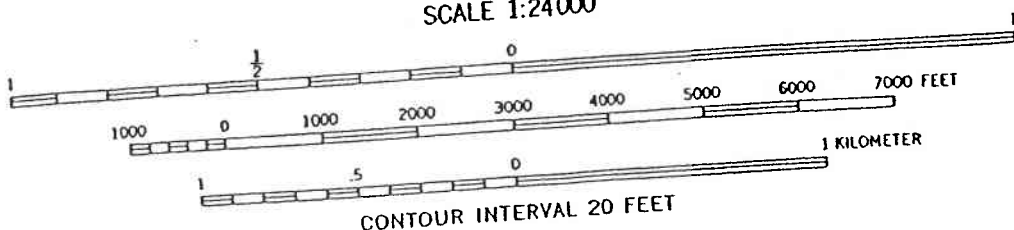
COMMENTS: color, turbidity, recharge, sheen
CLEAR, low, good, sheen, strong odor

WELL No.	TIME	VOLUME (gal.)	COND. (mS/cm)	TEMP. (deg. F.)	pH	
MW-1	1238	1.00	1021	63.7	6.72	Sample for: TPHg TPHd 8010 BTEx Other <u>MTL 8260B</u> Purging Method: PVC bailer <u>DISPOSABLE BAILE</u> Pump Sampling Method: Dedicated / Disposable bailer
Calc. purge	1243	2.00	1021	63.8	6.70	
volume	1246	4.00	1021	63.8	6.68	
<u>3.64</u>						

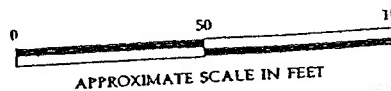
COMMENTS: color, turbidity, recharge, sheen
CLEAR, low, good, sheen, strong odor



SCALE 1:24000



Source:
USGS 7.5' topographic series
entitled "Santa Rosa, CA"



SITE LOCATION MAP
900 Santa Rosa Ave.
Santa Rosa, California

CLEARWATER GROUP

Project No.
AB002E

Figure Date
8/03

Figure
1

Appendix C

Laboratory Reports Chain-of-Custody Forms



Report Number : 42401

Date : 2/23/2005

Jim Ho
Clearwater Group, Inc.
229 Tewksbury Avenue
Point Richmond, CA 94801

Subject : 6 Water Samples
Project Name : SANTA ROSA IMPORTS
Project Number : AB002G

Dear Mr. Ho,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel Kiff", is written over a printed name label.

Joel Kiff



Report Number : 42401

Date : 2/23/2005

Subject : 6 Water Samples
Project Name : SANTA ROSA IMPORTS
Project Number : AB002G

Case Narrative

Matrix Spike/Matrix Spike Duplicate Results associated with samples MW-5, MW-6 for the analyte Tert-Butanol were affected by the analyte concentrations already present in the un-spiked sample.

Approved By:

A handwritten signature in black ink, appearing to read "Joe Kiff".

Joe Kiff



Report Number : 42401

Date : 2/23/2005

Project Name : SANTA ROSA IMPORTS

Project Number : AB002G

Sample : MW-1

Matrix : Water

Lab Number : 42401-01

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1700	5.0	ug/L	EPA 8260B	2/20/2005
Toluene	92	5.0	ug/L	EPA 8260B	2/20/2005
Ethylbenzene	2400	5.0	ug/L	EPA 8260B	2/20/2005
Total Xylenes	410	5.0	ug/L	EPA 8260B	2/20/2005
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	2/20/2005
TPH as Gasoline	27000	500	ug/L	EPA 8260B	2/20/2005
Toluene - d8 (Surr)	97.0		% Recovery	EPA 8260B	2/20/2005
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	2/20/2005

Sample : MW-2

Matrix : Water

Lab Number : 42401-02

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1400	7.0	ug/L	EPA 8260B	2/20/2005
Toluene	530	7.0	ug/L	EPA 8260B	2/20/2005
Ethylbenzene	3400	7.0	ug/L	EPA 8260B	2/20/2005
Total Xylenes	5300	25	ug/L	EPA 8260B	2/23/2005
Methyl-t-butyl ether (MTBE)	< 7.0	7.0	ug/L	EPA 8260B	2/20/2005
TPH as Gasoline	66000	2500	ug/L	EPA 8260B	2/23/2005
Toluene - d8 (Surr)	94.0		% Recovery	EPA 8260B	2/20/2005
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	2/20/2005

Approved By:


Joel Kiff



Report Number : 42401

Date : 2/23/2005

Project Name : SANTA ROSA IMPORTS

Project Number : AB002G

Sample : MW-3

Matrix : Water

Lab Number : 42401-03

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/20/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/20/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/20/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/20/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/20/2005
TPH as Gasoline	370	50	ug/L	EPA 8260B	2/20/2005
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	2/20/2005
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	2/20/2005

Sample : MW-4

Matrix : Water

Lab Number : 42401-04

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	2/17/2005
Toluene - d8 (Surr)	99.1		% Recovery	EPA 8260B	2/17/2005
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	2/17/2005

Approved By:

Joel Kiff



Report Number : 42401

Date : 2/23/2005

Project Name : SANTA ROSA IMPORTS

Project Number : AB002G

Sample : MW-5

Matrix : Water

Lab Number : 42401-05

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
TPH as Gasoline	79	50	ug/L	EPA 8260B	2/17/2005
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	2/17/2005
4-Bromofluorobenzene (Surr)	110		% Recovery	EPA 8260B	2/17/2005

Sample : MW-6

Matrix : Water

Lab Number : 42401-06

Sample Date :2/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	2/17/2005
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	2/17/2005
4-Bromofluorobenzene (Surr)	109		% Recovery	EPA 8260B	2/17/2005

Approved By:

Joel Kiff

QC Report : Method Blank Data

Project Name : SANTA ROSA IMPORTS

Project Number : AB002G

Report Number : 42401

Date : 2/23/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/19/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/19/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/19/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/19/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/19/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	2/19/2005
Toluene - d8 (Surr)	99.5		%	EPA 8260B	2/19/2005
4-Bromofluorobenzene (Surr)	104		%	EPA 8260B	2/19/2005
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/17/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	2/17/2005
Toluene - d8 (Surr)	98.6		%	EPA 8260B	2/17/2005
4-Bromofluorobenzene (Surr)	108		%	EPA 8260B	2/17/2005
Benzene	< 0.50	0.50	ug/L	EPA 8260B	2/22/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	2/22/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	2/22/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	2/22/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	2/22/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	2/22/2005
Toluene - d8 (Surr)	100		%	EPA 8260B	2/22/2005
4-Bromofluorobenzene (Surr)	99.0		%	EPA 8260B	2/22/2005

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:

Joel Kiff

QC Report : Matrix Spike/ Matrix Spike Duplicate

Report Number : 42401

Date : 2/23/2005

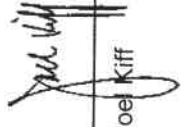
Project Name : **SANTA ROSA IMPORTS**

Project Number : **AB002G**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Limit	Relative Percent Diff.	Limit
Benzene	42422-01	<0.50	39.8	39.6	40.1	39.3	ug/L	EPA 8260B	2/19/05	100	99.2	1.31	70-130	25	25
Toluene	42422-01	9.7	39.8	39.6	49.8	49.3	ug/L	EPA 8260B	2/19/05	101	100	0.635	70-130	25	25
Tert-Butanol	42422-01	<5.0	199	198	194	193	ug/L	EPA 8260B	2/19/05	97.2	97.5	0.289	70-130	25	25
Methyl-t-Butyl Ether	42422-01	<0.50	39.8	39.6	35.1	34.9	ug/L	EPA 8260B	2/19/05	88.1	88.1	0.0280	70-130	25	25
Benzene	42393-01	260	40.0	40.0	300	295	ug/L	EPA 8260B	2/17/05	113	98.2	13.7	70-130	25	25
Toluene	42393-01	6.5	40.0	40.0	44.5	43.5	ug/L	EPA 8260B	2/17/05	94.9	92.5	2.64	70-130	25	25
Tert-Butanol	42393-01	7400	200	200	7740	7740	ug/L	EPA 8260B	2/17/05	149	147	0.886	70-130	25	25
Methyl-t-Butyl Ether	42393-01	410	40.0	40.0	441	442	ug/L	EPA 8260B	2/17/05	85.4	86.6	1.44	70-130	25	25
Benzene	42408-02	<0.50	40.0	40.0	41.3	40.1	ug/L	EPA 8260B	2/17/05	103	100	2.88	70-130	25	25
Toluene	42408-02	0.92	40.0	40.0	41.2	40.1	ug/L	EPA 8260B	2/17/05	101	98.0	2.83	70-130	25	25
Tert-Butanol	42408-02	<5.0	200	200	194	195	ug/L	EPA 8260B	2/17/05	96.8	97.5	0.717	70-130	25	25
Methyl-t-Butyl Ether	42408-02	<0.50	40.0	40.0	37.4	37.5	ug/L	EPA 8260B	2/17/05	93.5	93.9	0.374	70-130	25	25
Benzene	42401-04	<0.50	40.0	40.0	37.6	36.6	ug/L	EPA 8260B	2/17/05	93.9	91.4	2.71	70-130	25	25
Toluene	42401-04	<0.50	40.0	40.0	38.0	36.9	ug/L	EPA 8260B	2/17/05	94.9	92.2	2.86	70-130	25	25
Tert-Butanol	42401-04	<5.0	200	200	196	199	ug/L	EPA 8260B	2/17/05	98.3	99.6	1.38	70-130	25	25
Methyl-t-Butyl Ether	42401-04	<0.50	40.0	40.0	37.0	36.6	ug/L	EPA 8260B	2/17/05	92.6	91.6	1.12	70-130	25	25
Benzene	42432-20	<0.50	40.0	40.0	41.8	40.8	ug/L	EPA 8260B	2/22/05	104	102	2.55	70-130	25	25
Toluene	42432-20	<0.50	40.0	40.0	41.2	40.3	ug/L	EPA 8260B	2/22/05	103	101	2.38	70-130	25	25

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff

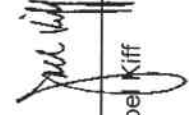
Report Number : 42401
Date : 2/23/2005

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **SANTA ROSA IMPORTS**

Project Number : **AB002G**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Limit	Relative Percent Diff.	Limit
Tert-Butanol	42432-20	<5.0	200	200	201	206	ug/L	EPA 8260B	2/22/05	100	103	2.26	70-130	25	25
Methyl-t-Butyl Ether	42432-20	<0.50	40.0	40.0	37.7	37.8	ug/L	EPA 8260B	2/22/05	94.3	94.4	0.169	70-130	25	25



Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 42401
Date : 2/23/2005

QC Report : Laboratory Control Sample (LCS)

Project Name : **SANTA ROSA IMPORTS**
Project Number : **AB002G**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	2/19/05	99.8	70-130
Toluene	40.0	ug/L	EPA 8260B	2/19/05	103	70-130
Tert-Butanol	200	ug/L	EPA 8260B	2/19/05	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	2/19/05	90.2	70-130
Benzene	40.0	ug/L	EPA 8260B	2/17/05	94.8	70-130
Toluene	40.0	ug/L	EPA 8260B	2/17/05	96.3	70-130
Tert-Butanol	200	ug/L	EPA 8260B	2/17/05	97.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	2/17/05	99.0	70-130
Benzene	40.0	ug/L	EPA 8260B	2/17/05	101	70-130
Toluene	40.0	ug/L	EPA 8260B	2/17/05	102	70-130
Tert-Butanol	200	ug/L	EPA 8260B	2/17/05	97.3	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	2/17/05	97.7	70-130
Benzene	40.0	ug/L	EPA 8260B	2/17/05	92.6	70-130
Toluene	40.0	ug/L	EPA 8260B	2/17/05	94.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	2/17/05	93.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	2/17/05	89.7	70-130
Benzene	40.0	ug/L	EPA 8260B	2/22/05	100	70-130

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:


Joel Kiff

Report Number : 42401
Date : 2/23/2005

QC Report : Laboratory Control Sample (LCS)

Project Name : **SANTA ROSA IMPORTS**
Project Number : **AB002G**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Toluene	40.0	ug/L	EPA 8260B	2/22/05	102	70-130
Tert-Butanol	200	ug/L	EPA 8260B	2/22/05	106	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	2/22/05	99.2	70-130

Approved By:

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800


Joel Kiff



2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 42401

Page 1 of 1

Project Contact (Hardcopy or PDF To):

California EDF Report? ☒ Yes ☐ No

Chain-of-Custody Record and Analysis Request

Company/Address: *Charmante Group*
229 Ewksbury Ave. Richmond

Phone No.: *(510) 307-9443* FAX No.: *(510) 232-2823*

Project Number: *430026* P.O. No.: *510232-2823*

Project Name: *Santa Rosa Imports*

Project Address: *900 Santa Rosa Ave Santa Rosa, CA*

Sample Designation: *mw-1*

Date: *2/10/05* Time: *1300*

Sampler Signature: *Reddy Berry*

Container Preservative Matrix

SLEEVE

40 ml VOA

SOIL

WATER

NONE

ICE

HNO₃

HCl

BTEX (8021B)

BTEX/TPH Gas/MTBE (8021B/M8015)

TPH as Diesel (M8015)

TPH as Motor Oil (M8015)

TPH Gas/BTEX/MTBE (8260B)

5 Oxygenates/TPH Gas/BTEX (8260B)

7 Oxygenates/TPH Gas/BTEX (8260B)

7 Oxygenates/TPH Gas/BTEX (8260B)

5 Oxygenates (8260B)

7 Oxygenates (8260B)

Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)

EPA 8260B (Full List)

Volatile Halocarbons (EPA 8260B)

Lead (7421/239,2) TOTAL (X) W.E.T. (X)

12 hr/24 hr/48 hr/72 hr/1 wk

TAT

Remarks:

Date Time Received by:

2/11/05/1630

Date Time Received by:

02/15/05 1130

Relinquished by: *Reddy Berry*

Received by Laboratory: *Kiff Analytical*

Relinquished by:

Bill to:

Distribution: White - Lab, Pink - Originator

Forms/coc 121001.fh9